

Title of Session: Music Across the Curriculum - Earth Science

Moderator: Leo LaBarge

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Room: ArtsSites Group

BJB2: Welcome to tonight's Music Across the Curriculum discussion. Leo has some really excellent ideas for you!

BJB2: we usually start most Tapped In discussions with introductions. Please tell us where you are located and what you teach.

BJB2: I'm an art teacher in Pennsylvania

HeatherBu: I'm a computer teacher in Texas

LoraAB: Middle school math and science NJ

DavidWe: I help teachers learn more about educational technology. I'm in New Jersey, near New York City

FredK: I am a tutor for the Pushmataha County Literacy Council in SE Oklahoma

DavidWe thinks New Jersey is winning at this moment

FredK: It's dog days here in OK

BJB2 hands the virtual floor over to Leo

LeoL: I'm a musician and an elementary ed teacher in NJ

LeoL: Thanks Bj

LeoL: So I get to thinking about cross-curricular connections, and looking for commonalities

LeoL: there is a document in the ArtsSites room

LeoL: under arts resources

LeoL: titled discussion 2 music and earth science

BJB2 . o O (in FILES/Arts Resources)

LeoL: I'm using that as a syllabus of sorts for this discussion. You don't necessarily need it right now

LeoL: but it has some useful links embedded

DavidWe finds the WORD file

LeoL: I picked Earth Science as the topic because I wanted to get the hardest one over with

HeatherBu is skimming the file

LoraAB: Good idea

LeoL: the topic actually turned more into a sound oriented scheme than music

DavidWe: I was wondering about the connection

DavidWe smiles

LeoL: I thought about first using music to teach scientific classification

TerriWa joined the room.

DavidWe waves to Terri

BJB2: welcome, Terri. We've just started

TerriWa: Thanks

LeoL: maybe we do need the doc. The first link I looked at was an index of different types of music instruments, sorted by method of sound production

LeoL: Hi Terri

LeoL: Does anyone in here teach scientific classification?

BJB2 . o O (we're looking at Files/Arts Resources - Music and earth science outline)

LoraAB: yes

LeoL: Musical instruments are divided into aerophones, chordophones, membranophones, idiophones and electrophones, based on their method of sound production.

DavidWe: What group does a guitar or banjo fall into?

LeoL: what kind of stuff do science teachers have to sort out?

LeoL: chordophone (string)

DavidWe nods

DavidWe: Thanks

LeoL: the link (which is quite cool) is
<http://www.music.vt.edu/musicdictionary/appendix/instruments/instrumentmain.html>

LoraAB: Rocks, climates, living things

LeoL: grouped by similarities

TerriWa: Objects vs substances

DavidWe: Cool web page

LeoL: so if you look at the link (press CTRL maybe)

LeoL: you'll see a fairly good breakdown

LeoL: Objects vs substances is a good way of looking

LeoL: objects are organizations of substances yes?

TerriWa: yes

HeatherBu nods

LeoL: so if the substance is sound

LeoL: then the organization is??

LeoL: *would be?

DavidWe . o O (what produces the sound?)

LeoL: maybe David, I was thinking organization of sound is composition

TerriWa: a composition is made of sounds

LeoL: yeah Terri that's what I'm thinking

LeoL: rocks have their own composition

LoraAB: in musical instrument different parts vibrate to make sound

LeoL: so you could, as a "hook" give the kids the means to organize some sound into composition

LeoL: <><> academic disclosure .. Lora and I have worked together for the past four years

DavidWe . o O (Hey, no fair!)

HeatherBu smiles

LeoL: One division I came up against fairly early, was the distinction between lyric based uses of music to teach science et al, and a more structural approach

LoraAB: He's teaching this old dog new tricks

LeoL: I prefer the more structural

DavidWe smiles

LeoL: anyway

LeoL: so Terri

FredK: Looks like you even have quizzes at the site

LeoL: how can I use classification of instruments to teach classification of rocks?

LeoL: (Not a trick question Terri, I really don't know)

LeoL: maybe so Fred I didn't check out the site completely

LoraAB: rocks are classes as sedimentary, igneous, and metamorphic

LeoL: What did you find?

TerriWa: I got distracted by the use of lyric based music. Do you also do that?

LeoL: Well There is some Terri

LeoL: I'm a drummer, lyrics well... you've never heard me sing...

LeoL: back in the day... I think middle ages or later

TerriWa: Types of rocks are made of minerals, but the hard part is that the real distinction is how they are made.

SusanR joined the room.

TerriWa: So maybe looking at how sound is made by various instruments . . . ,

BJB2 waves hi to Sue

LoraAB: in the classification of rocks they change from to another in a cycle similar to a melody

LeoL: there was a big distinction between absolute (instrumental) music and ... lyrical music

SusanR waves and wishes to join the discussion

DavidWe . o O (C'mon down!)

LeoL: well that's what I did have in mind Terri. Group them by sound production method. You could have the kids make some instruments

LeoL: Lora's talking about change over time, which kind of leads to another focus... graphing

LeoL: hiya Susan!!

TerriWa: graphing is always good.

SusanR: Hi Leo

LeoL: but first

LeoL: (what the heck, I mad a syllabus might as well)

LeoL: Another approach might be to play different types of music and have the students describe the differences. This would be very subjective, but it would give them practice in creating descriptions. They could decide what elements could be described objectively and subjectively

LeoL: I guess you'd need a music history source

LoraAB: also help them learn how to classify

LeoL: there's one I found for western music, but I'm not real happy with it

HeatherBu: that sounds like a good way to go, Leo

LeoL: <http://www.fanpop.com/external/3569>

LeoL: here's a really good world music source

LeoL: World Music <http://www.smithsonianglobalsound.org/teaching.aspx>

LeoL: (these are all on the document)

HeatherBu: I've been exploring that one...it's great!

LeoL: yeah

LeoL: The descriptive skills they'd need would translate nicely to Lang Art requirements

HeatherBu nods

LeoL: back to the graphing

LeoL: music is graphed on an X/Y axis

LeoL: (Which one is X and which is Y?)

DavidWe smiles

LeoL: Y goes up?

DavidWe wonders if that's a math question

HeatherBu . o O (I think so, Leo)

LeoL: (checking with Lora)

LeoL: I think so too

LoraAB: x horizontal y vertical

LeoL: thank you

LeoL: OK So the X axis is time, and the Y axis is pitch

LeoL: Movement of earth

LeoL: Wind

LeoL: Water (glaciers, streams, and rivers)

LeoL: Movement of air

LeoL: Weather

LeoL: Movement of Water (oceans)

LeoL: Tides

LeoL: Convection

LeoL: whoops!

LeoL: all the movement gets graphed on an X/Y axis

LeoL: after you get the kids to graph some pitches (Write some melodies)

LoraAB: Yes all of these are graphed

TerriWa: That could be demonstrated with a program like Audacity.

HeatherBu . o O (good idea!)

LeoL: cool I know very little about audacity

LoraAB: The lines you write music on is also a x/y graph

LeoL: Could you explain a little Terri?

TerriWa: I don't know a lot about using it, but it's free and shows a wave pattern.

TerriWa: It can be used to edit sound.

TerriWa: So you can stretch out the sound, for instance, and listen

LeoL: There might be a link on the doc. I know I tripped over it

TerriWa: <http://audacity.sourceforge.net/>

LeoL: hehe beat me to it lol

HeatherBu . o O (it's cross-platform and free!)

LeoL: <http://www.threechords.com/hammerhead/>

LeoL: Hammerhead drum machine

LeoL: online and free

HeatherBu: Cool!

LeoL: Terri later lets see if I can find some other links for you for online composition

TerriWa: I think I have a source to get some.

LeoL: I figure, in an overall way, that if we can give the kids some way to build and deconstruct one type of thing, they can apply that to other disciplines

HeatherBu nods

HeatherBu: I agree, Leo. We have to try multiple ways to find what interests the kids

LeoL: The next thing I was looking at was teaching scientific method

HeatherBu: then we can draw them into what we are trying to help them learn

LeoL: yeah some of these are just hooks, some actually do the same thing, have the same process as natural phenomena

TerriWa: How hard is it to make the polygraph instruments?

TerriWa: For those of us not musically gifted?

LeoL: they might be a little tricky . I would have liked to have spent more time finding homemade instruments

LeoL: mostly I put them there for rough ideas

TerriWa: ok

LeoL: <http://homeschooling.gomilpitas.com/explore/homemademusic.htm>

LeoL: just found this googling just now

HeatherBu . o O (mutli-tasking!)

LeoL: easy enuf to make didgeridoos

SusanR . o O (only available for Windows 95/98/NT/XP..)

SusanR: Results 1 - 10 of about 3,610,000 for HammerHead [definition]. (0.18 seconds)

SusanR: HammerHead Rhythm Station

LeoL: <http://www.threechords.com/hammerhead/>

LeoL: oh I get it thanks Susan

SusanR: is there a recipe for making didgeridoos, Leo

LeoL: <http://www.kinderart.com/multic/didgeridoo.shtml>

LeoL: check my office later too

FredK: Make Zine.com has some vegetable instruments; <http://makezine.com/magazine>

LeoL: ty Fred lets go look!

FredK: It's under projects

LeoL: HOW COOL!! I want to teach Science now!!

FredK: Nope, it is under blogs

FredK: I would like to make a Theremine

LeoL: ahhh magnetic field instruments!1

FredK: or however you spell it

LeoL: lets skip ahead to some really cool stuff

LeoL: <http://www.gi.alaska.edu/~jvo/infrasonics/oldindex.html> infrasound

LeoL: this is after you teach ultrasound and infrasound

LeoL: there's a really cool site where the music is generated by nature brb

LeoL: http://www.adn.com/news/alaska/ap_alaska/story/8009221p-7902221c.html

LeoL: news article about it

HeatherBu: cool!

LeoL: all phenomena generates vibration of one kind or another

LeoL: I may be way off scientifically but..

LeoL: radio waves, down thru visible light

LeoL: thru to heat (infrared)

LoraAB: all sound is made by vibrating something

LeoL: isn't that just moving air?

LeoL: and if air moves in waves

HeatherBu: hmm

LeoL: isn't that sound?

LoraAB: something has to vibrate first to move the air

LeoL: great quote: "Infrasound researchers are interested in sounds of 10 Hz and below, all the way down to 0.001 Hz. Lower than that is meteorology!" about.com

HeatherBu wants to go to the UA museum!

LeoL: IV Teaching about the nature of things through sound transmission

LeoL: (This might be time to teach the light and sound spectrums. Infrared/infrasound> ultraviolet/ultrasound This site looks good <http://library.thinkquest.org/19537/>)

LeoL: and what about elephants? <http://www.birds.cornell.edu/brp/elephant/index.html>

LeoL: elephant infrasound

LoraAB: bats and ultrasound

LeoL: yup

FredK . o O (whales)

LeoL: you could do experiments with echolocation outside

LeoL: bounce sounds of the outside of the school

LeoL: You could start demonstrating radar and echolocation show how mountains are mapped

SusanR . o O (I have never heard elephant communication..interesting sounds)

LeoL: did you play the samples?

LeoL: whales do the same type of thing

SusanR: yep

LeoL: mapping resource

LeoL: Show the distribution of various types of instruments. Where would you expect to find small portable instruments? Large immovable instruments? Conch horns? Show the expansion and evolution of the guitar. How did jazz come from West African rhythms, and how does that tie in with ocean currents and molasses?

LeoL: http://www.physicalgeography.net/fundamentals/8q_1.html

LoraAB: sonar to map the ocean bottom

LeoL: and the RA expeditions

SusanR: I am listening to the greeting ceremonies of elephants!

LeoL: COOL ain't it??

HeatherBu: Very!

LeoL: kids walk into your room, and you've got ELEPHANTS singing!!

LeoL: man.. you've got their attention

LeoL: . o O (esp if you play it loud)

SusanR agrees

LeoL: really loud

LoraAB: How about whales songs

LeoL: how do they travel so far?

FredK: Thing you have to watch out for is temperature inversions

LeoL: <http://www.lawrencehallofscience.org/whale/>

LeoL: Ok.

LeoL: bout that time I reckon

TerriWa: Thanks for the ideas, Leo.

BJB2: what a great discussion, Leo! Thanks!!!

LeoL: I'll leave to document hangin here if that's OK w?Bj

BJB2 nods

HeatherBu: thanks, Leo!

LeoL: also, I have some links in my office

LeoL: thank all of you !!

LoraAB: thanks Leo

LeoL: This thing is mutual y'know

FredK: Very enlightening, Leo

BJB2 waves goodnight.

FredK: ty

LeoL: I'm about as far from the sage on the stage as you can get

HeatherBu: Good job, Leo and all

LeoL: thanks all

BJB2: The topic for September's Music across the Curriculum is Music and Social Studies

HeatherBu waves bye for now

SusanR: Thanks Leo; this was quite a learning experience

LeoL: Terri (and others) there are some lyric based things too

LeoL: <http://www.tranquility.net/~scimusic/resources.html>

LeoL: text –rich source for jingles and songs

LeoL: Thanks Susan!

